ABSTRACT

A manufacturing method for a sintered substrate of alkaline batteries is provided. The manufacturing method includes a first step for mixing particles with a pore former and applying the mixture to a porous substrate, and a second step for sintering the porous substrate and the applied mixture. The particles are made of nickel or principally made of nickel, and the surfaces of the pore former particles each have a coating made of nickel or principally made of nickel. In this method, nickel frameworks are formed on the surface of the porous substrate, with relatively small spaces and relatively large pores formed in place of the pore former particles which disappear in the second step. A formed substrate has a greater porosity than a conventional substrate. Having been sintered, the nickel coatings on the surfaces of the particles transform themselves into inner walls of relatively large pores. This gives strength and thickness to the nickel frameworks surrounding those pores, reducing the probability of brittle failure. This means that the sintered substrate achieves a greater porosity without degrading a high level of strength. The pore former can be made from resin or any other materials if it disappears when sintered. The pore former particles

should preferably have a spheric shape, but it does not matter whether the pore former particles are solid or hollow. Using such sintered substrate for an electrode, an alkaline storage battery can exhibit a high performance.